

to the scorching heat of the sun ; and when the weight and size of the logs are taken into consideration, and that they have to be hauled through the surf a distance of some four miles, we should think that such a test of the quality of the rope could scarcely be exceeded. We therefore think you have every reason to be satisfied with the report which Captain Shaw makes upon yours.

C. Thorne, Esq., 16, Mark Lane.

We have, &c.,

EDWD. SHELTON AND CO.

DEAR SIR,—

George Yard, Lombard Street, London, E.C., 28th June, 1871.

We have been making inquiries respecting the use of New Zealand flax, and we do not find it is put to any other purpose at present than rope making ; we hardly expected to find it employed in any cloth fabric. Some five years ago a small quantity was tried in paper making, and we have the pleasure to enclose you two small samples of the paper made.

We have been giving off some small parcels of the tow for mixing with paper material, but have not heard the result.

John Morrison, Esq.

We have, &c.,

G. AND J. A. NOBLE.

SIR,—

Dens Works, Dundee, 13th June, 1871.

In reply to your letter of 6th current, regarding the New Zealand flax, I experimented a good deal with it in 1850, and have still some small quantities of the yarn and cloth made at that time, samples of which I enclose.

My opinion is that it is not suitable for fine fabrics of cloth, and for common purposes it would have to compete with jute, which is much more easy to manipulate.

John Morrison, Esq.

I have, &c.,

PETER CARMICHAEL.

DEAR SIR,—

141 Fenchurch Street,

London, E.C., 14th June, 1871.

Referring to your favor of the 5th instant, we have been unable to ascertain anything reliable about other articles than rope, as being manufactured from New Zealand flax. Several experiments are in progress, but nothing of commercial importance has yet been done.

There is a strong impression that the flax lately imported in large quantities, and the quality formerly imported, and now called Native dressed, are from a distinct species of plant. Can you tell us how this is ?

John Morrison, Esq.,

Yours truly,

MANNING, COLLYER AND CO.

(No. 143.)—Hon. J. VOGEL to Hon. COLONIAL SECRETARY.—London, 16th June, 1871.

I forward to you, herewith, a report by Mr. E. Fox, as to the three machines for preparing hemp, flax, &c., which he has inspected in Yorkshire.

The report will, I hope, be of interest to the Flax Commissioners.

SIR,—

Charing Cross Hotel, London, 16th June, 1871.

I beg to report that, as instructed by you, I have visited Leeds, for the purpose of seeing Collyer's machine for preparing hemp, flax, &c., respecting which a circular was handed to you in New Zealand by Dr. Hector, on behalf of the Flax Commissioners.

I have the honor to present to you herewith, a general description of that machine ; and also of others shown to me, or which I was aided to see by Mr. Lawson, the head of the firm of Messrs. L. Lawson and Sons.

The samples referred to in the course of the descriptions cannot be sent by post, and I will, therefore, myself convey them to New Zealand.

Hon. J. Vogel, &c., &c.

I have, &c.,

E. Fox.

MACHINERY FOR DRESSING HEMP, FLAX, &c., INSPECTED AT LEEDS AND HALIFAX.

1. *Collyer's Machine.*
2. *Lawson's Machine, with Fiskin's Motion.*
3. *Hodgkins's Machine.*

All these machines are made by Messrs. L. Lawson and Sons, of Hope Foundry, Mabgate, Leeds. The establishment is one of the largest for making machines for dealing with hemp, flax, jute and other fibres, if not the largest in the world ; opinion in Leeds being divided as to whether it or that of Messrs. Fairbairn, Kennedy, and Naylor should be regarded as pre-eminent. Messrs. Lawson were employing about 1,000 hands when I visited their place, but 1,500 or 1,600 are needed for full work.

The three machines mentioned are essentially alike in principle ; and each was evidently designed as an improved "break" for flax and hemp, and also, probably, as a "softener" of those and other fibres. The principal duty of a "break" is to crush the woody substance on the outside of which, as part of the bark or skin, or immediately underneath it, the fibre lies. The purpose of all such machines may therefore be said to be the opposite of that which has been kept in view in most, or all, of the New Zealand made machines for dealing with *Phormium tenax*, namely, to cut or scrape off the covering of the fibre.

The principle of the three machines is that known as the "reciprocating rotary motion," and the action of each is by a *backward* and *forward* motion of cylinders or rollers—the former being in excess